

Patent claims:

- 5 1. A network for electrical matching of an electrical component;
- comprised of at least two separate conductor planes (LE1, LE2) separated by a ceramic
intermediate layer;
- having a transformation line formed in or on a substrate, which line is of a predetermined
(prescribed) electrical length;
- 10 -- wherein the transformation line has two parts each of which has a bent-over configuration
(e.g. Greek fret pattern) and each of which is disposed in a respective conductor plane (LE1, LE2),
wherewith said two parts are interconnected by "through-plating" (DK) disposed in the intermediate
layer;
- wherewith both parts of the transformation line have exclusively straight conductor
- 15 segments which segments are joined together [sic] at right angles;
- wherewith, for at least part of the conductor segments the following applies: mutually
parallel conductor segments disposed in different conductor planes partially overlap and are thereby
mutually capacitively coupled, with the capacitive coupling being adjustable by adjusting of individual
overlap areas, so as to achieve the prescribed electrical length and prescribed impedance of the
- 20 transformation line.

2. A network according to claim 1; wherein the widths (d) of conductor segments in the same conductor plane are different, or the widths (d) of conductor segments in a given conductor plane and of respective overlapping conductor segments in another conductor plane are different, and said widths are chosen such that interfering or otherwise undesirable cross-couplings between different segments of the conductor are compensated for, and an impedance matching to the given environment is achieved to the extent of better than 25 dB.

3. A network according to claim 2; wherein when more than one conductor plane is present the width (d) of the conductor segments in a given conductor plane is selected to be different [sic].

4. A network according to one of claims 1 to 3; wherein at least one of the conductor planes is disposed between shielding plates which are parallel to said conductor plane and are connected to ground, wherewith said conductor plane is separated from a given said shielding plate by at least one ceramic layer.

5. A network according to one of claims 1 to 4; wherein at least one longitudinal edge of at least one conductor segment disposed in a first conductor plane adjoins (in a projection plane) the longitudinal edge of a parallelly disposed conductor segment in a second conductor plane.

6. A network according to one of claims 1 to 5; wherein all of the conductor segments have a width (d) which is at least that of the shortest length.

5 7. A network according to one of claims 4 to 6; wherein the transformation line is in the form of a "tri-plate" line having two shielding plates (ME) which are connected to ground, and wherewith the ceramic layers disposed between the respective conductor planes and shielding plates have the same thickness (dE).

8. A network according to one of claims 1 to 7; wherein the transformation line is in the
10 form of a $\lambda/4$ line.

9. A network according to one of claims 1 to 8; wherein the transformation line has 50 Ohm matching.

15 10. A network according to one of claims 1 to 9; wherein impedance matching to the exterior environment is provided with the aid of an additional element for impedance transformation.

11. A network according to one of claims 1 to 10; wherein the substrate is a multilayer ceramic structure, which forms the support for a component or a module.

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12. A network according to claim 11; wherein the component or module comprises at

least one component which operates with acoustic waves.